



US006485142B1

(12) **United States Patent**
Sheehy et al.

(10) **Patent No.:** **US 6,485,142 B1**
(45) **Date of Patent:** **Nov. 26, 2002**

(54) **ARTIFICIAL HUMAN EYE AND TEST APPARATUS**

4,865,552 A * 9/1989 Malonry et al. 434/271

(75) Inventors: **James B. Sheehy**, Leonardtown, MD (US); **Kenneth W. Gish**, Pipersville, PA (US); **John J. Sprenger**, California, MD (US)

* cited by examiner

(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

Primary Examiner—George Manuel
(74) *Attorney, Agent, or Firm*—Ron Billi

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 90 days.

(21) Appl. No.: **09/672,748**

(22) Filed: **Sep. 28, 2000**

(51) **Int. Cl.**⁷ **A61B 3/00**

(52) **U.S. Cl.** **351/203; 434/271**

(58) **Field of Search** 351/203, 205, 351/206, 221, 211; 434/271; 623/4.1; 446/389

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,834,528 A * 5/1989 Howland et al. 351/211

(57) **ABSTRACT**

An artificial eye includes a generally spherically shaped container including a substantially hemispherical posterior portion, a substantially hemispherical anterior portion and a fastener for attaching the posterior portion to the anterior portion. The artificial eye includes functional counterparts to the anterior and posterior chambers of the human eye. Within these chambers are fluids which mimic the characteristics of the aqueous and vitreous humors in the human eye. Protective eyewear is tested by placing the eyewear between the artificial eye and a source of radiation. Radiation is directed through the protective eyewear and then through the artificial eye. The radiation is then received by a sensing device such as a charged couple device (CCD) camera or optometer. The resulting image is then evaluated.

22 Claims, 5 Drawing Sheets

